

CLAIMS

- 5 1. An identifying apparatus to identify objects typically livestock or humans having electronic identification devices (EID), typically transponders, the identifying apparatus including multiple EID reading means, typically antennas, positioned in spaced apart relationship defining multiple adjacent pathways through which EID's carried by the objects, to be read, can pass in a single file through any one of the pathways and wherein
- 10 each EID reading means is adapted to read any EID as the objects pass individually through any one of the pathways and computing means adapted to record each EID carried by an object only once irrespective the number of EID reading means reads an EID or irrespective of the direction or how many times the object passes the multiple pathways, the apparatus
- 15 is also characterised by the provision of dividing means allowing objects to pass individually through a particular pathway.
2. An identifying apparatus as claimed in claim 1 wherein the EID's are rumen pellet or ear tag transponders when the objects are livestock.
- 20 3. An identifying apparatus as claimed in claim 1 wherein the EID's are electronic identification cards, neck tags, wrist or ankle bracelets or any other suitable EID's when the objects are human beings.
- 25 4. An identifying apparatus as claimed in claim 1 wherein when the objects are humans the EID's are used in conjunction with known biometric systems, typically face recognition systems or optical (eye/iris) recognition systems, or video or digital imaging systems.
- 30 5. An identifying apparatus as claimed in any one of the above claims wherein the multiple pathways are multiple races that are adapted to enable reading of all EID's irrespective of the physical size of each object.

6. An identifying apparatus as claimed in any one of the above claims wherein the EID reading means is adapted to read the EID carried by the object irrespective of the speed of the object through the multiple pathways.

7. An identifying apparatus as claimed in any one of the above claims wherein the multiple EID reading means come in modules to enable each EID reading means module to be releasably inter-connected to other EID reading means modules so that any number of EID reading means can be interconnected together to form the multiple pathways.

8. An identifying apparatus as claimed in any one of the above claims wherein the width of the pathways can be adjusted so as to allow the identification apparatus to identify different types of objects, for example where the objects are livestock the width of the pathways can be adjusted from allowing cattle to pass individually through to allowing sheep to pass individually through.

9. An identifying apparatus as claimed in any one of the above claims wherein each of the multiple EID reading means are equally spaced apart from one another.

10. An identifying apparatus as claimed in any one of the above claims wherein each EID reading means is adapted to read EID's at differing heights such as EID's carried by smaller objects, e.g. calves as opposed to those carried by larger objects e.g. fully grown cattle.

11. To An identifying apparatus as claimed in any one of the above claims wherein when the EID reading means are in a spaced apart relationship include angled divider means adapted to provide each pathway with a narrowing width wherein the width of each pathway at a lower region is

less than the width in an upper region so as to enable objects of differing heights and girth to pass individually through the pathways.

5 12. An identifying apparatus as claimed in any one of the above claims wherein each EID reading means is synchronized by one or more control modules to enable each EID reading means to read a number of EID's simultaneously and to transmit the data read to the computing means which processes the data to record each EID carried by an object only once.

10 13. An identifying apparatus as claimed in claim 12 wherein the control modules are connected to the computing means by way of communication cables and/or a cabled computer network.

15 14. An identifying apparatus as claimed in claim 12 or claim 13 wherein the control modules and the computing means include wireless means with either external or in built transmitters and receivers to allow data to be transmitted through a wireless network, such as GSM, between the control module and the computer means.

20 15. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus includes a global positioning device so that in situations where the identifying apparatus is situated in remote locations the exact location of the identifying apparatus can be obtained
25 using the global positioning network system.

30 16. An identifying apparatus as claimed in any one of the above claims wherein there is a visual and/or an audible alarm system such as a light and/or a buzzer or bell, respectively which is actuated when an object passes the EID reading means without activating the EID reading means.

17. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus is associated with a marking means adapted to mark objects which do not activate the EID reading means as they pass through the pathways, typically the marking means used herein is that disclosed in PCT/AU02/00858.

18. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus is associated with partitioned holding pens having drafting gates wherein livestock exiting a pathway can be directed through a drafting gate to selected holding pens, for example livestock that do not activate the EID reading means as they pass through the pathways can be drafted into a separate holding pen to that of the livestock that do activate the EID reading means.

19. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus is adapted to count the objects as they pass through the pathways.

20. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus is adapted to count the objects which do not activate the EID reading means as they pass through the pathways.

21. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus includes counting means adapted to count objects as they pass through the pathways and provide a count of the number of objects with EID's and a count of the objects without EID's.

22. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus includes motion sensing means adapted to activate the identifying apparatus when a moving object is sensed by

the motion sensing means, preferably as or just before the objects enter anyone of the pathways.

- 5 23. An identifying apparatus as claimed in claim 22 wherein the motion sensing means is photoelectric sensing means wherein a beam of light between a photo emitter and a photo sensor device is interrupted by the passage of an object.
- 10 24. An identifying apparatus as claimed in claim 22 wherein the motion sensing means is infrared (IR) sensing means or microwave sensing means where infrared and microwave beams, respectively, are interrupted by the passage of an object.
- 15 25. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus is mains powered, but can also be powered by rechargeable batteries capable of being recharged by solar power or other sources of charging.
- 20 26. An identifying apparatus as claimed in any one of the above claims wherein the identifying apparatus is portable and easily transportable.
- 25 27. An identifying apparatus as claimed in any one of the above claims wherein the objects include livestock (such as cattle, horses, sheep, etc), fish, crustaceans, marine animals (such as seals, dolphins, sea lions, etc), penguins, humans, baggage, packages, carcasses, etc
- 30 28. An identifying apparatus as herein described with reference to the accompanying drawings.
29. An identifying apparatus as herein claimed with reference to the accompanying drawings.